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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,519	04/27/2001	Raymond Ashton Cutler	05714 USA	8358

23543 7590 03/21/2003

AIR PRODUCTS AND CHEMICALS, INC.  
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EXAMINER

TSANG FOSTER, SUSY N

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 03/21/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/843,519	CUTLER ET AL.
	Examiner Susy N Tsang-Foster	Art Unit 1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 20 February 2003.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) 10 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,3-7 and 9 is/are rejected.

7) Claim(s) 2 and 8 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: *See Continuation Sheet*.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-10, Sm as the single species for Ln, Nd as the single species for Ln', and Mg as the single species for A in Paper No. 9 is acknowledged. Claims 1-8 are readable on the elected species. However, a search was made for Sm as the species for Ln in the formulas of claims 1-8 and prior art did not appear to be available for this species that satisfies the stoichiometries in the claimed formulas and hence a search was extended for Y as the species for Ln which is readable on claim 9.
2. Claim 10 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 9.

### ***Information Disclosure Statement***

3. The information disclosure statement filed on 4/27/2001 has been considered by the Examiner.

It is noted that the reference JP 6-228316 was not considered since a translation of the reference is not given and it was not mentioned in the specification. The reference submitted appears to be unrelated to the present application. For applicants' convenience, the Examiner is attaching the reference submitted by applicants to this office action.

***Specification***

4. The abstract of the disclosure is objected to because in line 11, the comma after Lu should be a semicolon. Furthermore, in line 10, the phrase "and mixtures thereof" should be deleted since it is not claimed in the claims.

Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

It is advised to the applicants to delete headings in the specification that are not applicable instead of listing them as not being applicable.

On page 4, line 22, there should be a semicolon between Lu and A.

On page 8, line 1, there should be a semicolon between Lu and A.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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7. Claims 1, 3-7, and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by the CAPLUS abstract for Jurado, J.R. ,”Present Several Items on Ceria-based Ceramic Electrolytes: Synthesis, Additive Effects, Reactivity and Electrochemical Behavior”, Journal of Materials Science (March 1, 2001), 36(5), pp. 1133-1139.

It is noted that the general formula for the composition of matter for claims 1-6 reduces to the formula  $Ln_xTi_{x-z}Ce_{1-x-z}O_{2-\delta}$  where  $Ln$  can be  $Sm$ ,  $Gd$ , or  $Y$ , and  $0.05 \leq x \leq 0.25$ ,  $0.001 \leq z \leq 0.03$  when  $x'$  is 0 and  $y$  is 0 and  $\delta$  is selected to make the composition of matter charge neutral and claims 1-6 do not require  $x'$  and  $y$  to be non-zero.

The CAPLUS abstract for the journal article discloses  $Ce_{0.92}Gd_{0.16}Ti_{0.01}O_{2.1}$  as the ceramic electrolyte which meets the formula of the instant claims when  $y$  is 0 and  $x'$  is 0.

#### ***Allowable Subject Matter***

8. Claims 2 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taniguchi (US 6,528,195 B1) discloses compositions consisting of Ba, Ce, Gd, Ti, and O (see Table 4) but the stoichiometries of these compositions do not satisfy the formulas of the instant claims of the present application.

10. Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (703) 305-0588. The examiner can normally be reached on Monday through Thursday from 9:30 AM to 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900.

The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9310 for regular communications and (703) 872-9311 for After-Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

st/15 March 2003

*Susy Tsang-Foster*

Continuation of Attachment(s) 6). Other: Copy of JP 6-228316 submitted by applicants.